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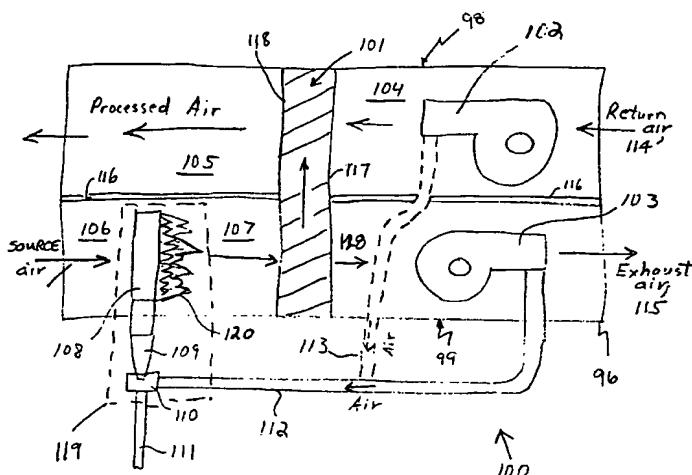
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(54) Title: DESICCANT DEHUMIDIFICATION SYSTEM



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(57) Abstract: A desiccant dehumidification system (DDS) uses an air heater that incorporates air feedback from the exhaust (115) and/or the return air fans (206). The air and gas are mixed in a mixing valve (110). The mixing valve (110) may be a single step, a two step or a continuous modulation valve. An outdoor cooking grill style burner (12) allows a small unit to be made with tight air heating system. One system cools the return air making it cool and humid. A portion of this air is then dried by a DDS which makes output air that is hot and dry. The remaining return air is then dried by DDS output air to deliver processed air in a controlled comfort range. A second system mixes return air with fresh air to make mixed return air which is dried in a DDS. The dried return air is then cooled to a desired comfort range without condensation.

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